percent, profitability requires a penetration of 13 percent. The UNE-P scenario is quite sensitive to market penetration because the service requires up-front investments in systems. Many of these investments have to be duplicated in each state.

77. UNE-L is a feasible alternative to the "platform" scenario for very large wire centers at relatively high levels of market penetration. Table 2 shows the required penetration level for profitability for wire centers of different sizes.

Table 2
UNE-L Profitability

Wire Center Size (lines)	Penetration
150,000	11%
75,000	14%
50,000	19%
37,500	25%

These results suggest that a CLEC might enter by offering UNE-P service, then gradually transition to the UNE-L as its local customer base grows.

78. If it is assumed that the local service market share of a long distance company will be closely related to the market share of lines presubscribed to that carrier for long distance service, the benefits of the merger of MCI WorldCom and Sprint are apparent. MCI WorldCom's share of presubscribed lines was 17.2 percent in 1996.[35] In terms of the New York analysis, this would permit MCI WorldCom potentially to provide local service based on unbundled loops only in wire centers of 75,000 lines or greater. Sprint's market share of presubscribed lines was 7.4 percent, which would not permit Sprint profitably to provide local service based on unbundled loops in even the largest wire centers. The market share of presubscribed lines for the combined MCI

[35] This is the last year in which the FCC reported shares based on presubscribed lines. See Zolnierek, James, *et al.*, "Long Distance Market Shares Fourth Quarter 1998," Industry Analysis Division, Common Carrier Bureau, FCC, March 1999, p. 9, Table 2.2.

WorldCom/Sprint would be 24.6 percent, which approaches the level needed to permit profitable offering of local service based on unbundled loops in wire centers of 37,500 lines.

79. The larger market share of the combined company potentially would permit a substantial expansion in the number of wire centers that could be served using unbundled local loops. Of the 516 wire centers operated by Bell Atlantic-New York, only 39 have more than 75,000 lines, the number that potentially could be served by MCI WorldCom alone, under these assumptions. If, however, the combined market share of MCI WorldCom and Sprint would permit wire centers of greater than 37,500 lines to be served, then the number of wire centers that potentially could be served using unbundled loops increases to 105. In terms of the total population of lines served from Bell Atlantic-New York wire centers, the number of addressable lines for the combined company would increase from approximately 42 percent to 72 percent of all lines. The combination thus would greatly expand the availability of a competitive alternative for current Bell Atlantic-New York customers.

80. The ability to provide DSL over unbundled loops obviously changes the economics of the collocation decision. Several firms (sometimes called data CLECs) are now providing DSL using UNE-L. The merger provides immediate additional competition for retail DSL services because Sprint's ION service can take advantage of the MCI WorldCom collocation spaces. Moreover, the ability of the combined firm to justify collocation through the larger long distance customer base plus the Sprint ION potential will lead to investment in more offices, including offices the data CLECs may find unattractive.

81. The data CLECs are collocating in a large number of ILEC central offices. This is consistent with the model presented here because the data revenue streams are much larger than voice revenue streams. To provide voice service of quality comparable to the ILEC, the data CLECs would have to add equipment.

E. The Need for a Merger

82. In theory, a joint venture or contractual relationship to realize some of the efficiencies discussed here is possible. In practice, the differing incentives of the firms and the high transactions costs of executing and monitoring these contracts would make sufficient cooperation unlikely in the absence of a planned merger. For example, MCI WorldCom is unlikely to have an incentive to make its scarce collocation space available at marginal cost to a competing firm.

83. Rolling out MMDS on a national scale by a joint venture would require a great deal of cooperation on the part of the two firms, especially given the high degree of technological uncertainty involved in developing the service. For example, resource allocation issues requiring decisions about Sprint PCS and MCI WorldCom fiber resources would be difficult to sort out in advance through contracts or a joint venture agreement. Within a single governance structure, these decisions can be made to maximize the interests of the merged firm rather than the divergent interests of two firms and a joint venture. In general, telecommunications joint ventures have not fared well. Sprint recently withdrew from the Global One venture, and prior to the WorldCom-MCI merger, British Telephone and MCI had decided to merge rather than go forward with their Concert joint venture. Finally, in the absence of transactions costs, firms in the

economy could be much smaller. Firms exist to internalize these costs. As discussed in the next section, the trend is for firms in the telecommunications business to grow larger.

III. Benefits of the Increased Size and Scope of the Merged Firms

84. The previous section noted that firms exist to internalize transactions costs. On the other hand, traditional microeconomic analysis teaches that there are inherent limits to firm size and scope. One factor limiting the size of firms is the longer communications chains required in a large organization. The resulting loss of control may lead to reduced focus and direction. The information technology revolution brought about through the increasing capability and rapidly falling cost of computer processing power has made possible the efficient combination of ever-larger firms. As Brynjolfsson and Mendelson note:

> The new technologies will allow mangers to handle more functions and widen their span of control. Fewer levels of management hierarchy will be required, enabling companies to flatten the pyramid of today's management structure. The new information technologies allow decentralization of decision-making without loss of management awareness; thus employees at all levels can be encouraged to be more creative and entrepreneurial.[36]

This means firms can be larger. The next questions are: why does MCI WorldCom want to become larger by acquiring Sprint?, and how will consumers benefit as a result?

85. Consumers will benefit because of efficiencies and innovation. The larger firm, as discussed below, will be a more significant entrant into the currently monopolized local market and will have a lower cost structure for the traditional long

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[36] Brynjolfsson, Erik, and Mendelson, Haim, "Information Systems and the Organization of Modern Enterprise, June 1993, *http://ccs.mit.edu/erik/joc*, p. 3. Published in the *Journal of Organizational Computing*, December 1993

distance and wireless services they will jointly provide. These "supply-side" efficiencies will be quite large.

86. There will be benefits for mass-market residential consumers and business and residential consumers outside the major metropolitan areas. The significant economies of scale inherent in competitive wireline technologies mean that these consumers are less likely to receive the benefits of facilities competition. By combining the customer bases of the two merging firms, the economics of providing residential service and entering smaller markets will be improved. Moreover, the MMDS broadband wireless technology the two companies are preparing to roll out will be efficient at a much smaller scale than fixed technologies.

87. There are also "demand-side" efficiencies. Consumers value the services of firms with more products and broader geographic scope for two reasons. First, there is an evolving preference for one-stop shopping solutions. Suppliers that can provide a larger combination of services will be more attractive to some customers. Second, business consumers, who are themselves becoming larger in geographic scope as a result of the same technological and market forces affecting their telecommunications suppliers, have a preference for integrated networks. A single end-to-end supplier is valued by multi-location customers because of service uniformity as well as control over provisioning and maintenance.

88. The MCI WorldCom-Sprint combination is a particularly good fit from the point of view of both firm efficiency and consumer demand. First, the merger combines MCI WorldCom's portfolio of local and long distance services with Sprint's PCS network. This will allow MCI WorldCom to market a package of fixed and mobile

services to its customer base. Second, the merger combines MCI WorldCom's more fully developed CLEC networks with Sprint's long distance operations. This will allow Sprint to offer CLEC services to its customer base more rapidly and more cost-effectively. Finally, by combining the Sprint and MCI WorldCom MMDS operations, the merger provides a much more robust platform on which local wireless entry can take place.

IV. The Benefits of the Merger

89. The merger will make the combined MCI WorldCom/Sprint a more effective local competitor: the cost of entry will be reduced, and speed of entry will be accelerated. The benefits of accelerated local entry will be substantial. As discussed below, ILEC services are priced well above economic cost. The presence of a third full-facilities-based competitor to compete with the ILECs and cable telephony providers will drive prices closer to economic cost. The merger will also make the merged firm a more effective UNE competitor, which will significantly increase retail competition, particularly in the mass market.

90. As discussed above, joint entry has the potential to reduce the combined firm's MMDS costs by hundreds of millions of dollars. But this is only the first installment of the benefits consumers will receive. Analysis conducted by HAI demonstrates that current ILEC revenues from regulated services exceed forward-looking economic costs by approximately $30 billion. This figure was estimated by running the HM 5.0a using default assumptions for all Tier 1 telephone companies and comparing the resulting costs with local revenues. HM 5.0a costs were adjusted to include customer and corporate operations expenses not included in the Model. The $30 billion consists of the

capital carrying cost of overbuilt plant, operational inefficiencies and misallocated costs.[37]

91. Reducing or eliminating this monopoly overcharge would obviously provide significant benefits to consumers. As an illustration, if as a result of the merger full local competition arrives two years earlier than it otherwise would (by the year 2008 instead of 2010), and assuming that the gaps between current price and cost would be eliminated in a linear fashion, the present discounted value of the benefits to consumers in terms of lower prices would be almost $17.5 billion. A portion of this amount represents a redistribution of monopoly overcharges from producers to consumers. Another significant amount represents efficiencies as ILECs are forced to reduce costs to competitive levels. The allocative efficiency gains due to the elimination of deadweight social loss of the local monopoly would be an additional benefit.

92. At present ILECs do not cooperate in the provision of interconnection and unbundled local elements. CLECs must resort to regulators to settle differences about the price and provisioning of UNEs. Regulation is obviously imperfect. UNE rates established by the states often ignore TELRIC principles.[38] There are protracted disputes over unbundling and collocation policies. At some point, as competitive local facilities are built, particularly mass market facilities, the ILEC incentives will shift towards cooperation with the CLECs. The ILECs will essentially decide that they would rather

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[37] HM 5.0a was run for all Tier 1 carriers and the resulting costs were compared to Tier 1 carrier revenue requirements, less expenses not included in HM 5.0a. This analysis is an update of a previous analysis of the gap between ILEC revenues and economic costs, See HAI, "The Cost of Basic Network Elements: Theory, Modeling and Policy Implications," March, 1996, p 36.

have local service retailers collocate in their central offices and use their loops instead of losing customers to cable and MMDS. Wireless competition, alone and in combination with other types of facilities-based competition, will surely accelerate cooperation. When this happens, consumers will benefit. They will benefit from lower prices and new services and they will also benefit as taxpayers as the cost of regulation falls.

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[38] *Ex parte* letter to Ms. Magalie Roman Salas, Secretary, FCC, from Richard Clarke, AT&T,CC Docket No. 96-98, "State Use of Forward-Looking Economic Cost Methodologies: Some Convergence Principles, But Not In Practice," March 19, 1999.

Appendix
MCI WorldCom CLEC Model[1]

Introduction

In addition to a fully facilities-based entry strategy, there currently are three primary modes by which competitive local exchange carrier ("CLECs") can enter the market for local exchange services using some facilities provided by the incumbent local exchange carriers: 1) they can resell the local exchange service of the incumbent LEC; 2) they can sell a package of unbundled network elements ("UNEs"), a mode sometimes known as "UNE-platform" or "UNE-P," or; 3) they can provide certain network functions, such as local interoffice transport or local switching, with certain network elements provided by the incumbent local exchange carrier ("ILEC"), such as unbundled local loops ("UNE-L").

MCI WorldCom has constructed a straightforward model to evaluate the profitability of residential local exchange service. The model is of a hypothetical CLEC, and does not utilize any information specific to MCI WorldCom. The model takes as input the rates for unbundled network elements, local exchange resale, and charges for collocation, and applicable non-recurring charges for each entry scenario, as well as total element long-run incremental cost ("TELRIC") results from the HAI Model and other public sources. It compares (1) the cost of (a) resale, (b) platform combinations, and (c) combining UNE-L with CLEC-provisioned switching using collocation to (2) projected residential telephone revenues to determine whether the CLEC local exchange service can be offered profitably, and the extent to which CLEC entry can result in savings to

[1] Mark T. Bryant, Ph.D and George Ford, Ph.D. are the principal developers of the CLEC Model.

consumers. The model considers the billing and operations support systems ("OSS") that must be developed or acquired by the CLEC before operations can begin, and assumes that these "up front" costs are recovered over a ten-year period. The model can consider a number of other input assumptions, including the penetration rate that the CLEC will achieve over a ten-year period, the charges for the use of unbundled network elements or service for resale, the cost of acquiring customers, the customer churn rate, and the number of minutes of calling for each customer for local and interexchange calls.

This model of profitability is intended to be a tool for the analysis the impact of policy decisions on whether firms will enter and compete in the local telephone market. The model is useful primarily to make comparisons between the profitability of different modes of entry and to evaluate the sensitivity of the entry decision to certain key variables. The actual profit levels estimated under the different scenarios are not intended to be accurate to the penny, but are meaningful only within a reasonable range of error – approximately one to two dollars per customer per month. It is difficult to make predictions about how competition will evolve in local markets. Many factors will influence the course of competition, including customer tastes, technology, the efficiency of OSS, and federal and state regulatory developments. The purpose of this model is not to make predictions, but to shed light on what factors matter to the development of competition, given our current state of knowledge about these markets.

The CLEC revenue per customer is based on current ILEC retail rates, although it is likely that the CLEC would be required to offer services at a discount in order to attract customers. Each residential customer is assumed to purchase one vertical feature at a

price of $4.00 per month.[2] The CLEC also will receive subscriber line charge and PICC revenue, and depending on the entry scenario chosen, may also receive access revenue and local interconnection revenue.[3]

Some costs that will be incurred by the CLEC as it begins to provide local exchange service are well known or can be estimated with some precision. Where rates charged by ILECs for UNEs and local exchange resale have been established, they are contained in the local exchange company tariffs or in contracts between CLECs and ILECs. The cost of engineering and installing network elements that are self-provisioned by the CLEC can be estimated accurately using TELRIC cost models, such as the HAI Model or various local exchange company incremental cost models.

Because competition for residential local exchange service has not yet occurred on any significant scale, however, it is difficult to determine what input values should be used for variables that reflect consumer behavior in a competitive local exchange market, including the market penetration that will be achieved by the CLEC and the rate of customer churn (the rate at which customers either move into or out of the area, or switch to another carrier). Both of these factors can have a significant impact on the profitability of the CLEC. The greater the market penetration achieved by the CLEC, the larger the customer base over which the CLEC can spread certain fixed costs, such as development and purchase of billing systems and "up-front" non-recurring charges imposed by the

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[2] This assumption was used by one of the ILEC's consultants. See Huber, Peter, *Local Competition Under the 1996 Telecommunications Act*, November 4, 1997, fn. 61.

[3] The specific revenues considered for each scenario are described in more detail below.

ILEC, *e.g.*, for preparation of collocation space.[4] Greater customer churn increases both acquisition costs (the cost of marketing, advertising, and selling the service) and costs associated with certain non-recurring charges imposed by the ILEC on a per-customer basis. Because neither of these variables can be estimated accurately at this time, it is most appropriate to consider a range of values.

While the input values used in the model are taken from public sources and are not MCI WorldCom-specific information, the values generally are consistent with MCI WorldCom's experience in the local marketplace. In developing this model, a goal was to make publicly available to regulators and other interested parties a tool for evaluating local exchange service profitability without relying on proprietary company-specific data.

In calculating the profitability of each scenario, the model compares the monthly revenues received from an average customer to the average cost incurred for each customer over a ten-year period, subject to the assumption that market share for the CLEC will increase at a constant rate through the ten-year period, and achieve the specified level in the tenth year.

The model considers only the stand-alone costs and revenues of providing local exchange service. It does not consider any cost savings between the provision of local exchange service and other lines of business in which the CLEC is engaged or might choose to be engaged. To the extent that any such savings could be achieved, the overall profitability of the CLEC might be greater than the results of the model suggest, and a

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[4] The assumed penetration rate is for an individual CLEC. An example may help to put these assumptions in perspective: If an individual CLEC achieves 15% penetration,

CLEC might therefore be more likely to enter the market. For example, new technologies such as digital subscriber line ("DSL") service could, if the requisite UNEs are made available at cost-based rates, enable the provision of broadband data services to mass market residential customers. The model does not attempt to include this service because of uncertainty about certain critical inputs, including the rate that could be charged for such services and the likely penetration levels that such a service could achieve.

The model assumes that resale and all UNEs can be acquired by the CLEC at stated prices without delay – in other words, that OSS are operational and work flawlessly – and that the ILEC is fully cooperative. To the extent that the ordering and fulfillment process is subject to errors or delay, or if the ILEC attempts to raise its rivals' costs by introducing errors or delay into the process, then the CLEC's costs would be much higher, and profitability thus much less than the model results suggest.

The model includes the cost of capital (depreciation, interest, and return to shareholders) as a part of the cost of local exchange service. As such, where the model reports positive profits, it indicates profits in excess of those that could be sustained in a competitive environment. Given that the CLEC almost certainly will be required to provide service at a discount from the rate charged by the ILEC in order to attract customers, and that where entry is feasible, more than one CLEC is likely to enter the market, any positive profits quickly will be transformed into consumer savings.

In the first entry scenario – resale – the CLEC resells the local exchange service of the ILEC. It receives the retail revenue from the local exchange customer, but does not

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and two other CLECs are equally successful in the same market conditions, the ILEC's

receive revenue for the subscriber line charge, the PICC, or for interexchange carrier access charges. It must recover its own costs for billing, customer sales and service, systems development, and general overhead. For this scenario, economies of scale derive predominantly from the cost of systems development and general overhead, and for certain marketing costs that pertain to the entire market addressed, *e.g.*, advertising costs.

In the second entry scenario – platform – the CLEC provides the local exchange service by purchasing unbundled network elements from the ILEC. It receives retail revenue from the local exchange customer, as well as the subscriber line charge, the PICC charge, and interexchange access charges. As in the resale scenario, the CLEC must recover its own costs for billing, customer sales and service, systems development, and general overhead. For this scenario, economies of scale derive from the same sources as are present in the resale scenario.

In the third entry scenario – collocation – the CLEC obtains unbundled loops from the ILEC, collocates in ILEC wire centers to place transmission equipment, and provides its own local switching equipment. The revenues in this case are the same as in the "platform" scenario. In addition to the costs that must be recovered in the "resale" and "platform" scenarios, the CLEC also must recover the cost of its transmission equipment, transport facilities, and switching equipment. Significant economies of scale are present in the operation of this additional equipment.

This analysis is based on data from the State of New York. For each of the three scenarios described above, the model is used to estimate the profitability of a theoretical

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share of the market would drop to 55 percent.

CLEC as a function of market penetration and customer churn. The cost figures used in this analysis are for the highest density zone in New York, with the lowest charge to CLECs for the use of UNEs . In other density zones, where UNE prices are higher, the profitability for the CLEC will be less.

Resale

Attachment 1 shows the model results for the "resale" scenario. At current rates for local exchange resale in New York, this scenario is not profitable for any reasonable assumptions for market penetration and churn. At best, assuming 15 percent market penetration and only 15 percent annual customer churn, the scenario loses money at the rate of $6.50 per customer per month. At worst, assuming 8 percent market penetration and 33 percent annual customer churn, the scenario is unprofitable by $8.68 per customer per month. The scenario is more sensitive to changes in customer churn rate than to changes in market penetration. Approximately doubling the churn rate (from 15 percent to 33 percent) decreases the profitability by between 20 and 25 percent, while approximately doubling the market penetration (from 8 percent to 15 percent) increases profitability by only seven to ten percent.[5] The New York results are not atypical. For 37 states for which retail rates and resale discounts are readily available, none was profitable for any reasonable set of assumptions for churn (as low as 5 percent) and market penetration (as high as 25 percent).

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[5] For example, losses in the resale scenario increase from $6.85 to $8.42 (22.5%) as churn increases from 15% to 33% at the 10% penetration level, while losses decrease from $7.98 to $7.37 (8.3%) as penetration increases from 8% to 15% at the 25% churn level.

UNE-P

Attachment 2 shows the model results for the "platform" scenario. At current rates in New York, this scenario can be profitable depending upon the values assumed for statewide market penetration and customer churn. If customer churn is estimated at the low end of the range – at 15 percent – the scenario achieves profitability at a market penetration rate of four percent. If customer churn is instead estimated to be 33 percent, the scenario does not become profitable until market penetration has reached 12 percent. Because the CLEC must make greater initial fixed investments for this scenario than for the resale scenario, the "platform" scenario is quite sensitive to market penetration, particularly at relatively low levels of market penetration. Increasing market penetration from two percent to three percent, for example, reduces losses from 40 percent to 65 percent, depending on the churn level assumed.

UNE-L

Attachment 3 shows the model results for the "collocation" scenario. Over a range for market penetration of eight to fifteen percent, and a range for annual customer churn of 15 percent to 33 percent, this scenario fails to achieve profitability at current rates in New York. However, it is important to note that, because the "collocation" scenario involves the highest level of fixed capital investment on the part of the CLEC, as well as very high per-customer non-recurring costs associated with performing manual cross-connects, this scenario is very sensitive to the number of customers served from each end office. By default the model assumes an end office having 37,500 customers, and the results shown in Attachment 3 reflect this assumption. Attachment 4 shows the

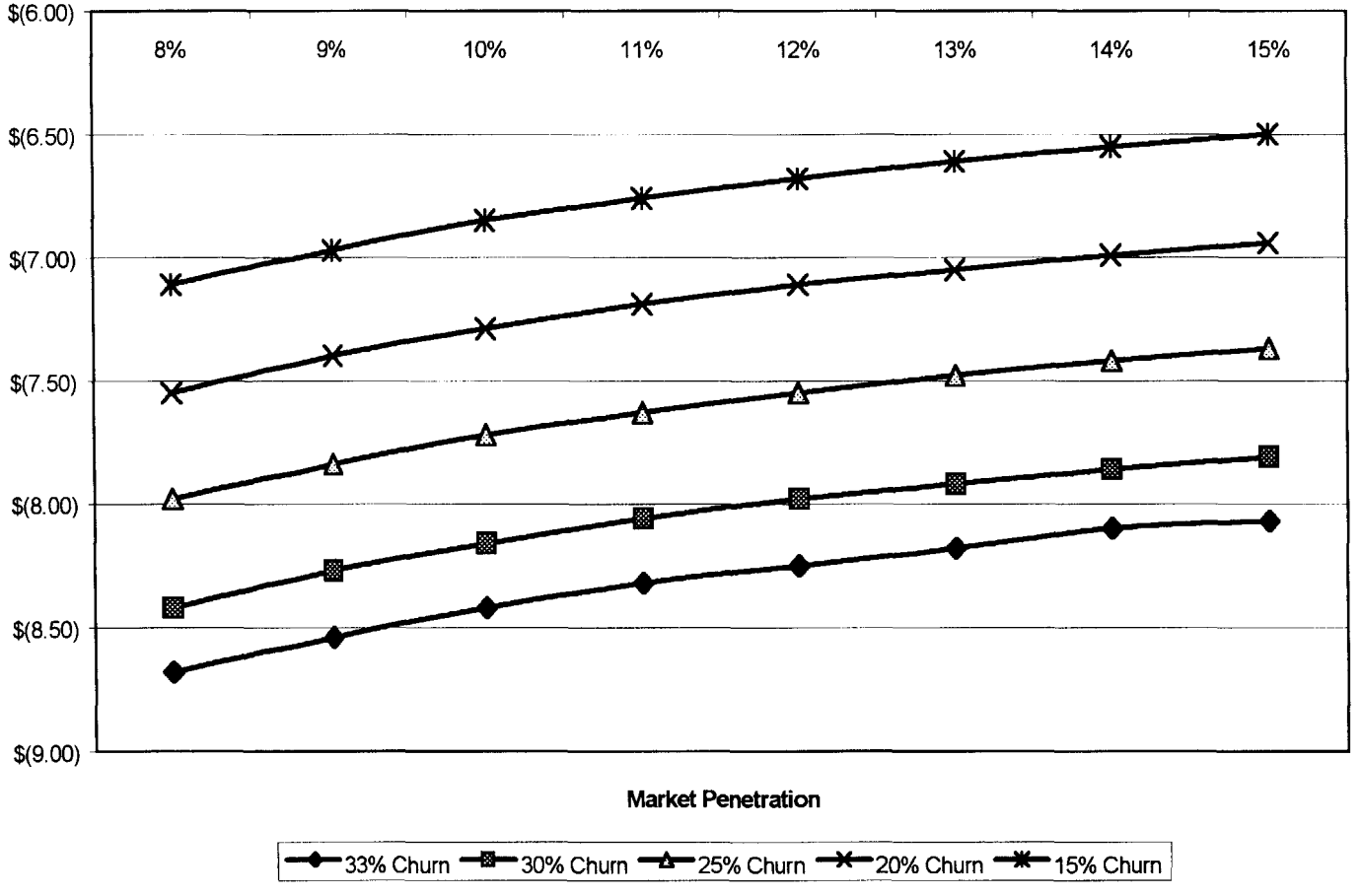
results of varying the number of lines served from an end office. For this analysis, the annual customer churn rate is held constant at 25 percent, while market penetration is varied from eight percent to 20 percent for wire centers varying from 20,000 lines to 150,000 lines. The results show that the "collocation" scenario is a feasible alternative to the "platform" scenario for very large wire centers at relatively high levels of market penetration. The 150,000-line wire center becomes profitable for collocation at a market penetration of 11 percent, while the 75,000-line wire center becomes profitable for collocation at 14 percent market penetration. The 50,000-line wire center approaches profitability at a market penetration of 19 percent. The smaller wire centers at 37,500 lines and 20,000 lines are not profitable at any level of market penetration within the assumed range. While not shown on Attachment 4, market penetration would have to be increased to 23 percent for the 37,500 line wire center to become profitable, and would have to reach 39 percent for the 20,000 line wire center to become profitable.

Recognizing that the CLECs will, for a number of reasons, prefer to provide service using their own switching equipment, this suggests that a reasonable entry strategy for a CLEC would be to begin by offering a service based on the "platform" scenario, then gradually to transition to the "collocation" scenario as its customer base increases, at least in larger wire centers in more populous areas. In smaller wire centers, the number of customers may never rise to the level that collocation is a profitable means of providing service.

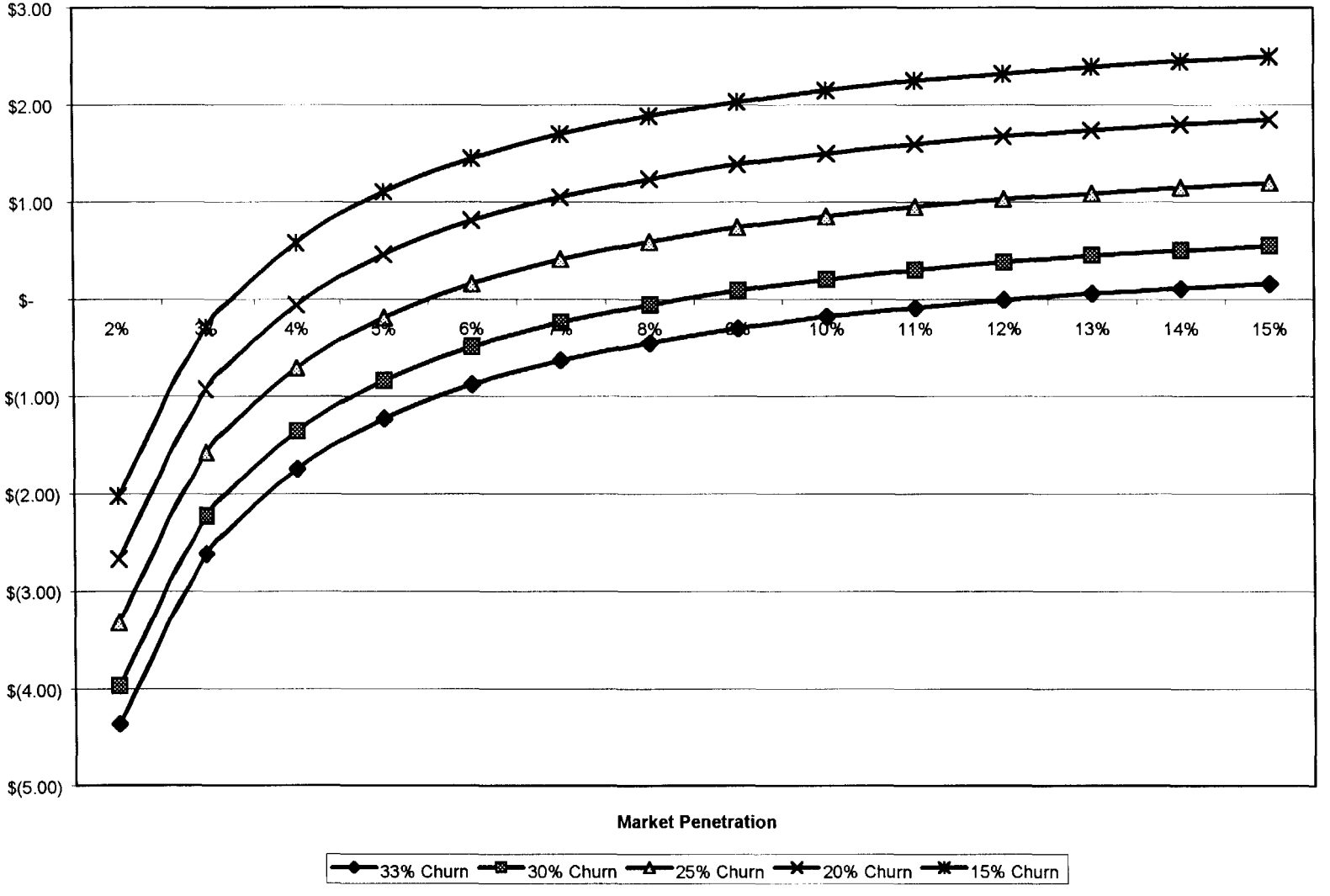
While these results are based on data from the State of New York, they are consistent with results for several other states, and in no case is collocation profitable as an initial entry strategy. It can be expected that the relative profitability of the "platform"

and "collocation" scenarios will vary among states, depending on the specific rates established for CLEC collocation and CLEC use of unbundled network elements, as well as the number and distribution of larger wire centers. However, it is clear that collocation will always require a certain critical mass of customers before it becomes profitable, and that the "platform" option will always be required to facilitate CLEC entry into all local residential markets, and as the only means by which certain smaller wire centers can profitably be served.

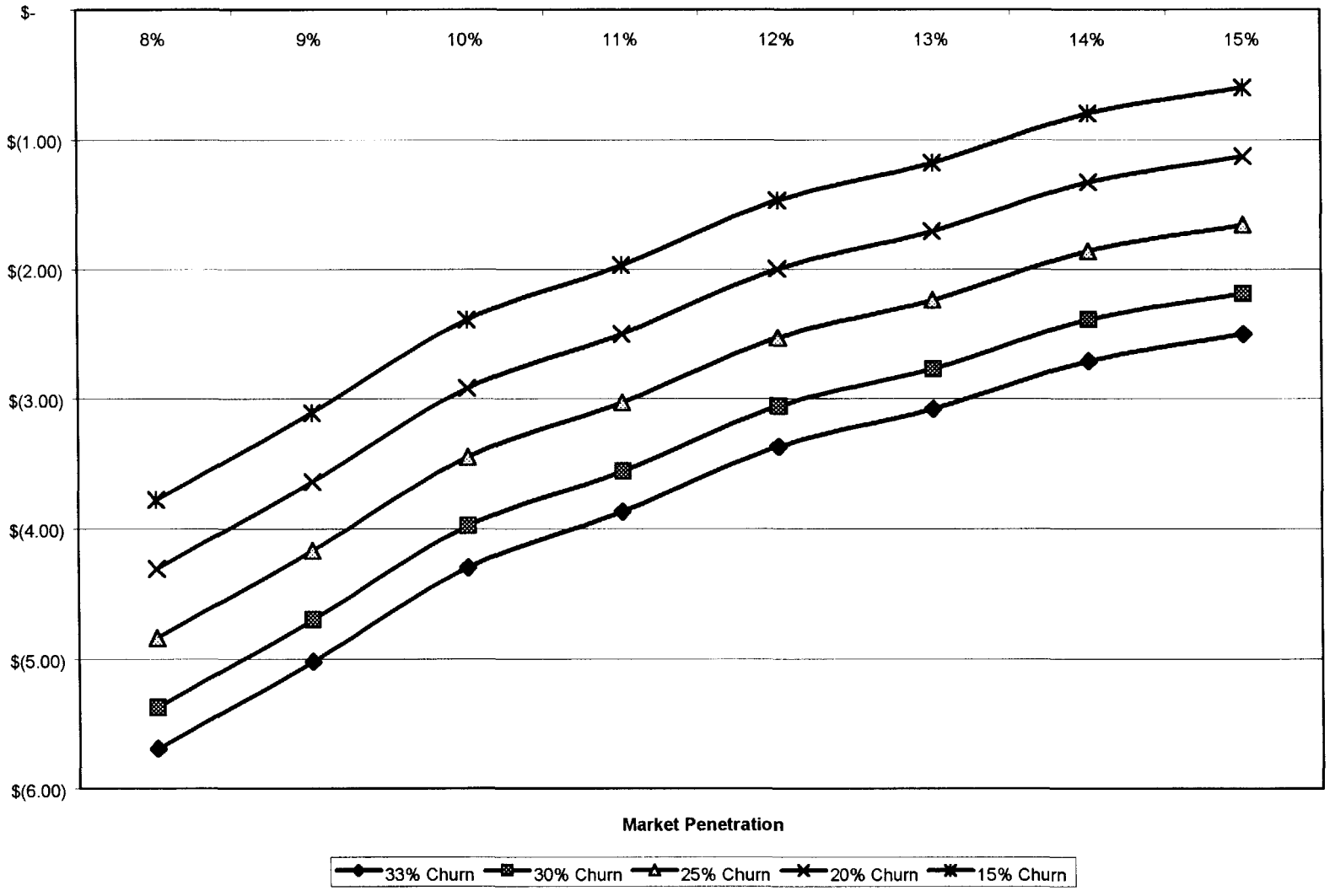
Attachment 1
NY Resale



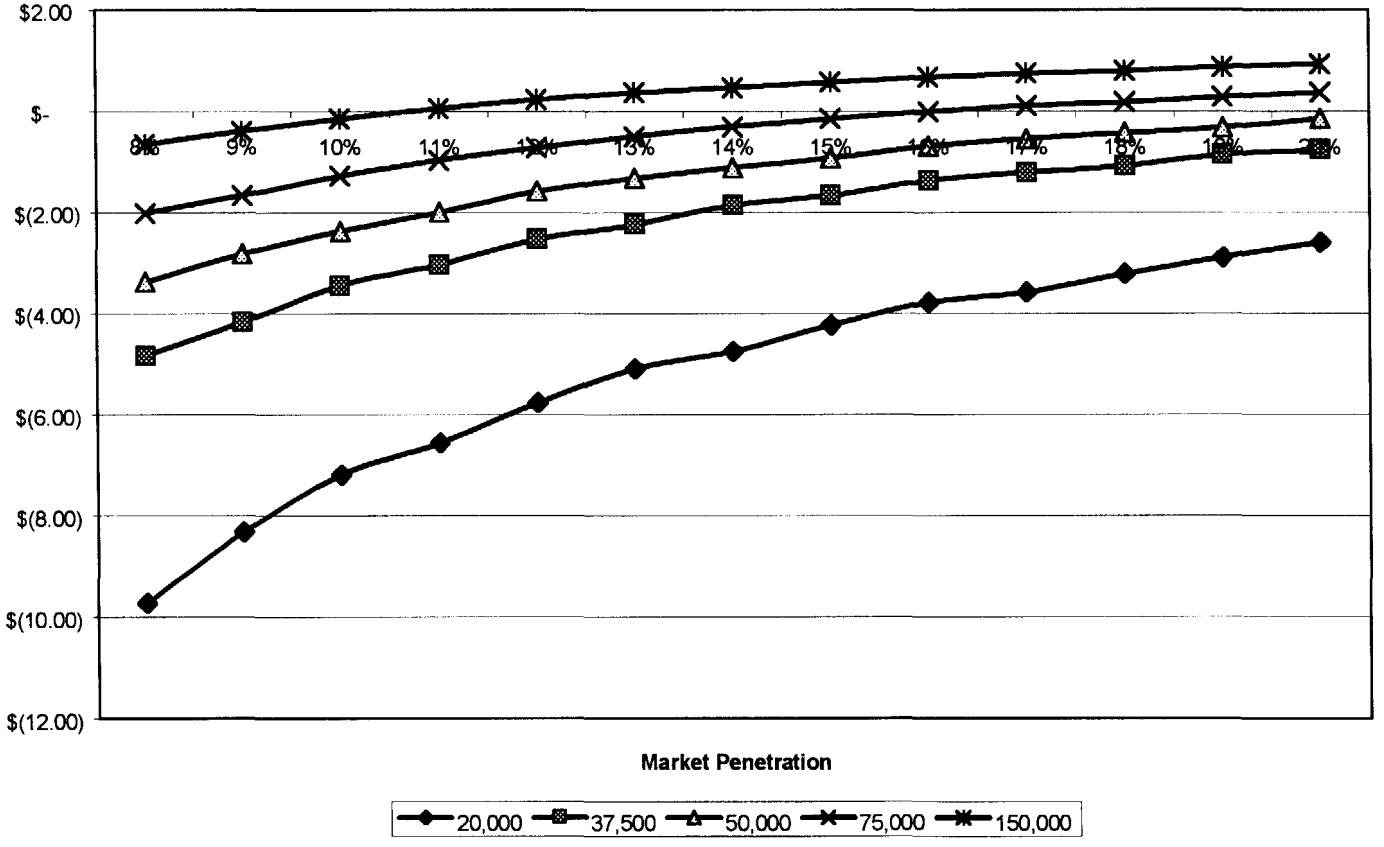
Attachment 2
NY UNE-P



Attachment 3
NY Collocation



Attachment 4
NY Collocation by Wire Center Size



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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Joint Application of MCI WorldCom, Inc.	)	**CC Docket 99-333**
and Sprint Corporation for Consent to	)	
Transfer Control	)	

DECLARATION OF NICHOLAS S. ECONOMIDES

March 20, 2000

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